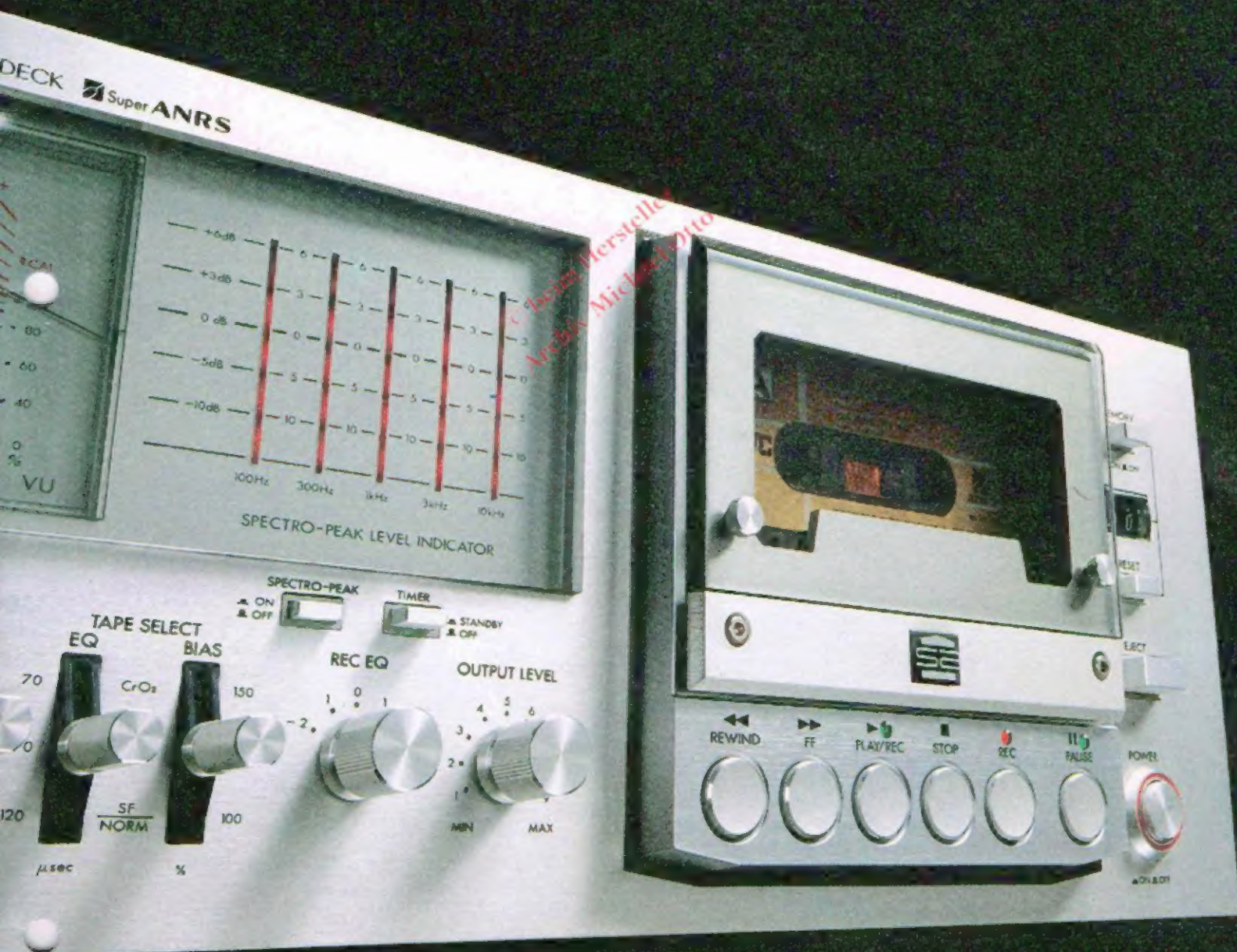


# JVC

## CASSETTE TAPE DECKS



Closer to the Musical Truth



## JVC— Closer to the Musical Truth

Fifty years of technical innovation has put JVC in the forefront of modern electronics manufacture. CD-4, Super ANRS (Automatic Noise Reduction System), SA(Sen-Alloy) Head — these are just a few achievements that company has popularized throughout the world. What's the secret of this outstanding innovation? For one thing, we have our own research and development divisions — like the JVC Audio Engineering Research Center. For another, we are as deeply involved in the manufacture of software as we are in audio hardware.

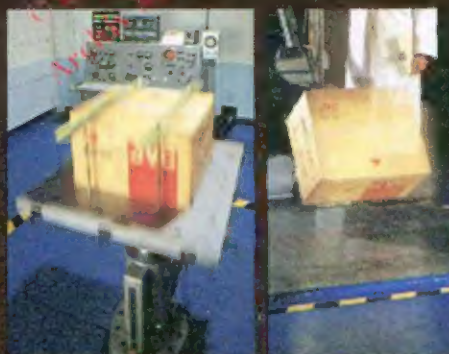
Tape recorders are electrical as well as mechanical. Thus, a tape deck with advanced circuitry also requires advanced mechanisms. At JVC, we perform thorough tests on every tape recorder before it reaches the production line, let alone the marketplace. Prototypes are stored and operated in extremely low and high temperatures and relative humidities. Physical tests are as severe as they are comprehensive. A computer-assisted Automatic Running Operation Test Machine is unique to JVC; with the assistance of computers, we make sure that the subject deck operates as designed over 20,000 cycles of record-fast forward-rewind-play-pause operation. This test — and many others — is intended to make sure that the mass-produced product will operate at user's home as designed by JVC engineers. But there is even more attention to detail. Electrical performance is checked on million-dollar precision measuring apparatus; parts are checked along the line until they reach the production stage; and the assembled products are random checked for strict and unqualified quality control. JVC decks perform to the highest standards in the industry; they perform as promised and for a long time they perform dependable in almost all conceivable climates on earth; and they survive bumps and handling while in transit. Every tape deck featured in this brochure is designed to bring you Closer to the Musical Truth — and with the highest JVC standards of perfection.



This old gramophone represents the long history and tradition of JVC engineering for the Musical Truth.



Automatic Running Operation Test Machine is computer controlled to assure each JVC deck works as originally designed.



Vibration Test: A packed unit is subjected to various bumps in transit, assuring perfection after journeys across sea and land.

A packed deck unit is tested to make sure it works perfectly even after having been dropped with a heavy thud.



Measuring Apparatus: Each deck is made sure to work as specified in important parameters.



# JVC Technical Highlights

## AMP CIRCUITRY IN JVC DECKS

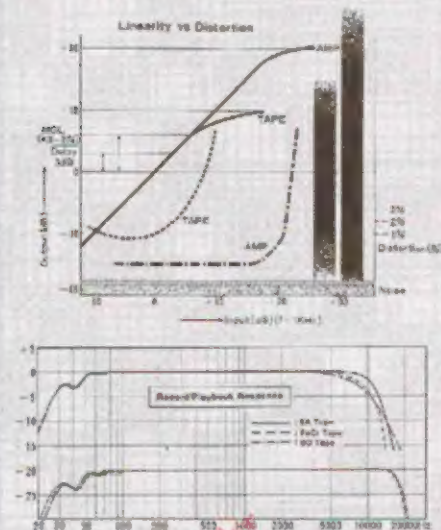
Tape recording requires four vital components: a deck mechanism to run the tape at the regulated speed, heads in a deck that transduce magnetic into electrical information (playback) or the other way around (recording), amps in a deck to amplify minute signals to larger ones, and the tape itself that's run along the deck's tape transport mechanism. Only when these components work together is tape recording possible.

The technical highlights we have documented below are all JVC exclusives, and all of them originated from our constant research into basic audio engineering. Super ANRS, SA Head, Recording Equalizer, Spectro Peak and Multi-LED Peak Indicator are innovations that were born of our Original Sound Realism theme and from our philosophy of tape recording/audio technology.

At JVC we believe that in any tape deck the amps must be electrically and mechanically balanced. That's why we use a head amp in advanced PNP-NPN 2-stage direct-coupled configuration with a DC negative feedback network — which is the configuration well known for musical quality, superb transient response and excellent stability. That's also why we use a separate equalizer amp—separate, that is, from the head amp — built around low-noise ICs; with ideal time constant calculated out, they feature a high signal-to-noise ratio, high linearity and wide dynamic range. Further, for separate mic amps, we use select low-noise ICs, so that linearity before the volume potentiometer is over +51dB the reference level. In head-phone amps, we use high-gain op-amps; and these don't differ much in frequency response and gain, unit by unit, as they deliver constant performance and give excellent transient response. As a bonus to the user, they permit the use of both high- and low-impedance headphones. Finally, the bias circuits feature low waveform distortion and high oscillator output for low distortion recording. Shown below are the linearity

and frequency response of a typical JVC amp.

Linearity of Amplifiers in JVC Decks



## Spectro Peak Indicator ▼

Every recordist is aware of the severe limitations of a cassette recording, particularly in the areas of constricted high-frequency dynamic range. Left unchecked, clashing cymbals or a blasting trumpet will be recorded to sound like a hammer pounding an anvil.

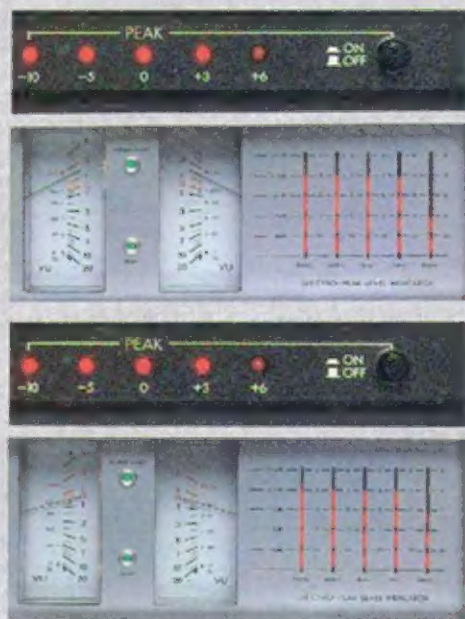
Original JVC research led to two outstanding advances in curing cassette headaches: the JVC-exclusive Super ANRS or Automatic Noise Reduction System to expand dynamic range and the JVC-originated SA Head which exhibits superb recording/playback linearity.

Now JVC further expands dynamic range in cassette tape recording by taking advantage of new technological advances in one ingenious device — the JVC Spectro Peak Indicator (JVC Patent Pend.). It indicates the levels — +6, +3, 0, -5 and -10dB — of five frequency ranges — 100, 300, 1k, 3k and 10kHz — (or spectra) instant to instant. This permits the cassette recordist to visually monitor the high-frequency peaks that are likely to cause distortion. He is immediately warned of distortion before it occurs, and can make the appropriate level adjustments to prevent it.

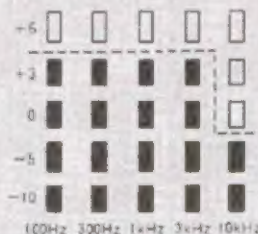
Since the JVC Spectro Peak Indicator has twenty-five peak-reading LEDs — each one responding within one milli-second — he has much more control

than if he depended on VUs alone.

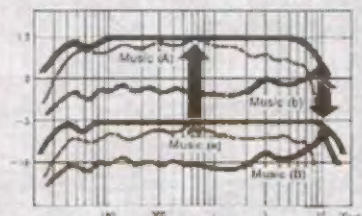
On playback, the Spectro Peak Indicator displays the frequency spectra of the reproduced music: you know at a glance if it's bass-rich, mid-rich or otherwise.



Relationship between Indication of Spectro Peak Indicator and Frequency Response



Optimum Recording Level Setting for Maximum Tape Linearity







### Multi-LED Peak Indicator ▼

Like the Spectro Peak Indicator, this popular JVC-exclusive Multi-LED Peak Indicator with five LEDs lets you easily determine optimum recording level settings by indicating peak levels at -10, -5, 0, +3, +6dB. This peak reading capability helps you expand the dynamic range by avoiding tape distortion caused when peaks, unreflected by VUs, are applied to the recording amp.



### SuperANRS

#### Super ANRS (Automatic Noise Reduction System) ▼

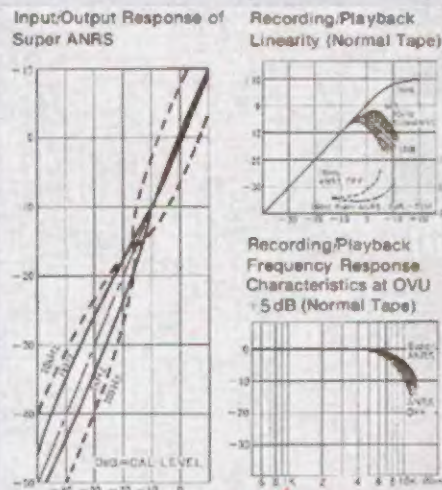
When you record high-level signals (OVU for instance), tapes inherently have reduced head room or saturation, resulting in a narrow frequency range or nonlinear response — particularly in cassette tape recordings. This is why, when high-level high-frequency signals of high-pitched musical instruments such as cymbals or a piccolo are recorded, they sound, on playback, constricted and cramped.

The JVC Super ANRS (Automatic Noise Reduction System) has two functions. One is to improve the signal-to-noise ratio of recording/playback as much as 5dB at 1kHz and 10dB at 5kHz or more. This function is noted in reduced tape "hiss" noise, which is particularly pronounced during soft passages. The other function is to expand the high-frequency linearity by 6dB (OVU) and 12dB (+5VU), both at a high 10kHz, with less than 3% total harmonic distortion. This means that shrill piccolos are recorded without a trace of distortion.

Technically speaking, the Super ANRS circuit compresses the high-level high-frequency signals (as well as the low-level high-frequency signals) during recording. This process prevents the recorded levels from saturating the tape. During playback, on the other hand, the signals are reciprocally expanded to the original levels.

The Super ANRS is also designed so that the ANRS circuit alone can be used for recording and playback without

introducing dynamic range expansion. A switch labelled "ANRS" is provided and, when it is switched on, it makes it possible to play Dolbyized\* tape properly. The entire Super ANRS circuit is packed in an IC for stable performance.



\*Dolby is a trademark of Dolby Laboratories, Inc.



#### SA (Sen-Alloy) Head

As you can see in the illustration, the SA Head is very complex. It consists of a core formed of six layers of laminated permalloy sheets and a heat-bonded Sen-Alloy gap/guard. This JVC exclusive head has many features. It improves signal-to-noise ratio, since it works as a shield against magnetism.

When compared with another variety of Sendust formulation — heads in Sendust blocks — our SA Head gives a number of advantages: It induces less eddy current, has better high-frequency response and features more mechanical precision in gap design.

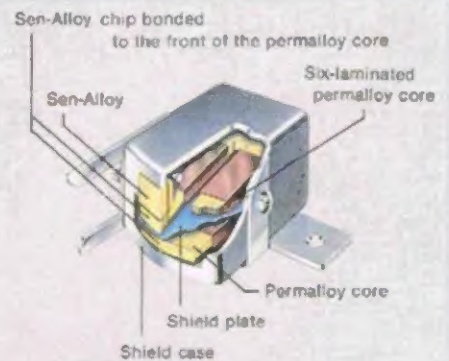
(Chart)

1. Permeability — When a head material has a larger figure, that means it passes lines of magnetic force more easily. Therefore, its record/playback response is better and its signal-to-noise ratio higher.
2. Coercivity — When a head material has a smaller figure, it retains less magnetic residue after de-magnetization. Therefore, it requires less frequency of de-magnetization (de-gaussing) than that with a greater figure.
3. Maximum flux density — When a head material has a larger figure, that means it has less magnetic resistance than that with a smaller figure. Therefore, its

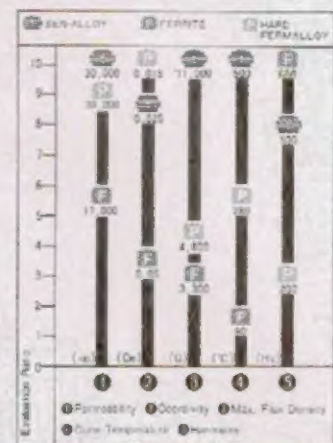
record/playback performance is less distorted and has a wider dynamic range.

4. Curie temperature — When a head material has a higher degree, that means it loses its magnetic property at a higher degree than that with a low Curie temperature. Therefore, its performance is stable even when confronted with wildly varying temperature changes.

5. Hardness — When a head material has a greater figure, that means it suffers less wear and delivers a more constant performance over a long period than that with a smaller figure.



Performance Comparison: Sen-Alloy, Ferrite & Hard Permalloy



#### Two-Gap Erase Head

A high-performance recording head — such as JVC's SA Head — needs an erase head just as advanced. JVC's Two-Gap Erase Head features a high erasure factor and a low noise for clean re-recording.

#### 3-Positioned Bias/Equalizer Switches

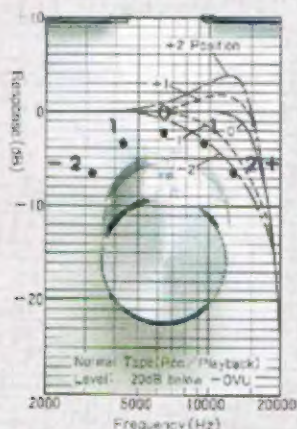
These facilities are a must feature on a tape deck, irrespective of its price, to achieve best results from every type and brand of tape on the market.





### Recording Equalizer Switch

A tape's high-frequency response differs from deck to deck because every tape requires a different bias and equalization for best recording results. On some decks response may drop sharply, while on others it tends to rise. This variability is known as the "tape/deck compatibility" problem. It's a problem however, which the JVC Rec(ording) Eq(ualizer) Switch has solved by allowing you to fine-adjust your deck so you'll have a flat high-frequency response from whatever tape you use. The switch has five positions — adjustable in approximate 1.5dB increments up to  $\pm 3$ dB at 10kHz, relative to 0dB at 1kHz. Since every JVC cassette deck with this feature has three equalizer positions (SA/CrO<sub>2</sub>, FeCr, SF/Normal), the five selectable responses allow a possibility of 15 different combinations.



### Automatic Input Selection

Some JVC decks have MIC (DIN)/LINE mixing facility; others are equipped with an Input Selector switch; and still others have Automatic Input Selection facility. All circuits feature improved signal-to-noise ratios.

### TAPE TRANSPORT DESIGNS IN JVC DECKS

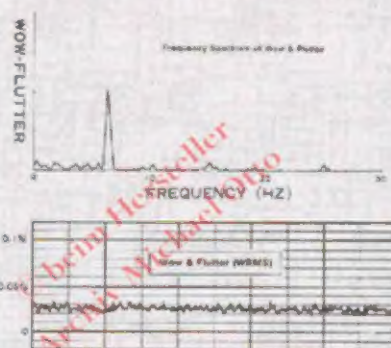
As we have noted, mechanism is an important component in tape recording — the unique aspect in audio engineering in comparison with the other, more "electrical" functions of audio equipment.

Mechanism in tape recording involves motor speed accuracy, drive system dependability, tape path alignment and head azimuth for accurate recording/playback. On these factors, all three basic parameters of a deck — fre-

quency response, signal-to-noise ratio and wow and flutter — are dependent.

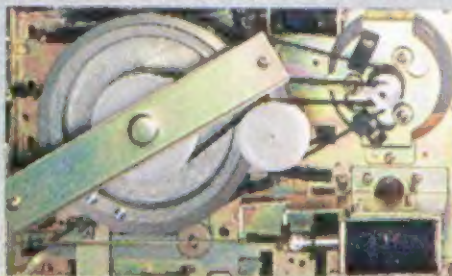
JVC has contributed to accurate tape transport mechanism in a number of ways: In engineering we analyze the frequency spectra of noise contents and wow and flutter; we check the dynamic balance between components in a mechanism and so forth. Out of JVC engineering have come such company exclusives as Dual-Ball Cassette Hold System and ID Mechanism. In componentry, on the other hand, we use large-size flywheels and precision-ground flat belts, both designed after deep research into tape mechanism. Our search for tape accuracy is unending. Here is visual evidence of recent JVC engineering triumphs.

Frequency Spectrum of Wow & Flutter



### ID Mechanism

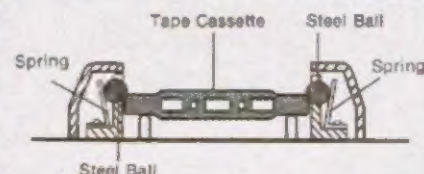
JVC's Independent Drive or ID Mechanism drives the capstan independently from the reels. Therefore, a reel cannot drag the capstan, disfigure the precision belt, cause a loss of concentricity or otherwise impede accurate tape speed. The result is low wow and flutter and outstandingly accurate sound reproduction.



### Dual-Ball Cassette Hold System ▼

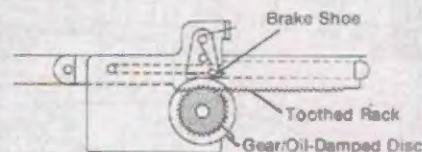
Another JVC exclusive for better musical

performance. The two precision-finished stainless steel balls in the cassette holder secure your tape with constant pressure. Cassette misalignment — a cause of faulty response — is impossible and stable tape transport is the result.



### Gear/Oil-Damped Cassette Lid ▼

This is a new and ingenious way to dampen cassette lid movement. Instead of a usual snap-in/out spring-loaded cassette lid, JVC has developed a sophisticated one with a toothed rack, oil-damped gear/disc and spring-loaded brake shoe. As the lid's clutch is released to open the door, the rack's movement is controlled by the oil-damped gear/disc, allowing the lid to open smoothly and silently.



### Real-Time Pause Mechanism

As you push the Pause button during recording or playback, the tape remains pressed to the head. Thus, as you disengage the pause mode, the tape starts recording or playback without a moment's hesitation, which assures you of clean recording without annoying pop noise or unerased old material.



### Timer Standby Facility

With this and a commercially available timer switch, you can record and play back a tape unattended. You can thus make recordings off the air while you're away, or wake up with music on tapes every morning.

▼ JVC Patent Pending

NOTE: On the following pages, JVC-exclusive features are identified by logo marks which indicate the features of individual models.



# STEREO CASSETTE DECK

2-Motor Full-Logic Solenoid Control



## KD-85



### KD-85

- Switchable 25-LED Spectro Peak Indicator
- Superb Transient TTL IC Amp Design
- Low Wow & Flutter: 0.05% WRMS
- Memory Stop
- Gear/Oil-Damped Cassette Lid

The JVC KD-85 Stereo Cassette Deck always lets you make a perfect recording. Damage to tapes and mechanism is also avoided. Besides that, the JVC KD-85 is a beautiful machine to behold. It's a visual pleasure, a JVC design coup, which, among other extras, includes a Spectro Peak Indicator. Superb specifications include a 30 to 16,000Hz ( $\pm 3\text{dB}$ ) frequency response with chrome tape, a better than 56dB signal-to-noise ratio (ANRS off) and 0.05% wow/flutter (WRMS). Those figures are, roughly, comparable to open-reel performance parameters.

#### Two-Motor Full-Logic Control

The KD-85 uses the best mechanism ever conceived for a cassette deck — the two-motor ID mechanism. In this configuration, two motors are employed to insure stable tape transport: a frequency generator (FG) servomotor for capstan drive and a DC motor for reel drive. Be-

cause each drive mechanism operates independently of the other, and because its operation is thus simplified, the KD-85 achieves a very, very low wow/flutter of less than 0.05% (WRMS). Full logic control of the KD-85 is the job of three dependable TTL ICs — one custom-made MSI (Medium Scale IC) type and two TTL (Transistor-Transistor Logic) ICs. These controls permit direct changing of modes with a light push of buttons which requires only a 6mm stroke. Memory Stop facility is also included.

#### Spectro Peak Indicator

This handy recording/playback convenience is an added KD-85 feature. It allows you to visually and constantly check the level of five low-to-high frequency ranges to avoid saturation — and thus distortion — of your tapes. The JVC Spectro Peak Indicator is actually very easy to operate. If you wish to dub and record chamber music, for example, simply adjust the recording controls according to the following instructions:

- 1) Don't let the VU meters go over +2VU.
- 2) Make sure that the +6dB LEDs (top row) for the frequencies of 100, 300, 1k and 3kHz in the Peak Indicator do not become illuminated.

- 3) Also, don't let the 0dB, +3dB and +6dB LEDs for the frequency 10kHz (rightmost column) become illuminated.

The photo below shows the frequency spectrum of a popular music passage. At a glance, you can determine, from second to second, how high or low the recording level is for each frequency range.

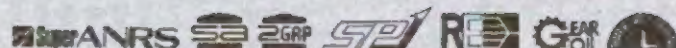


#### Two More JVC Exclusives for Smooth Operation

The cassette holder in the KD-85 is of the easy-to-operate kangaroo-pocket type. Because JVC's exclusive Dual-Ball Cassette Hold System clamps your cassettes in tight, you don't have to worry about cassette misalignment that might cause poor recording and playback. Furthermore, the KD-85 also features JVC's new Gear/Oil-Damped Cassette Lid. As you press the eject



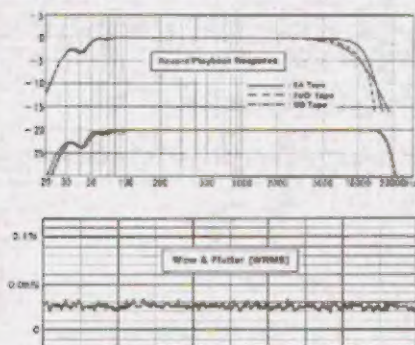
# STEREO CASSETTE DECK



## KD-65



button, the balls in the Dual-Ball Cassette Hold System are released from their seats and the lid is permitted to open smoothly and noiselessly.



A wood case, model WB-60, is available at option.

### KD-65

- Switchable 25-LED Spectro Peak Indicator
- Flat Response from 30Hz to 16,000Hz  $\pm 3\text{dB}$  (SA/CrO<sub>2</sub>)
- Low 0.06% Wow and Flutter (WRMS)
- Memory Stop
- Gear/Oil-Damped Cassette Lid

The KD-65 is a priced-down version of the KD-85 — minus such extravagances as full logic control and 2-motor drive. However, the KD-65 employs a precision frequency generator (FG) servomotor for both the capstan and reels in the sophisticated arrangement for speed accuracy. It also offers all the high-standard and basic parameters you get with the KD-85, including low wow and flutter of less than 0.06% (WRMS).

#### JVC's Spectro Peak Indicator

The same display and circuit used in the KD-85 is incorporated in the KD-65. This design not only improves recording quality by warning of saturation-causing high recording level, especially in high frequencies, but also allows you to visually monitor frequency spectra, but makes recording and playback with a visual pleasure.

#### More KD-65 Features





Also designed into the KD-65 are a Recording Equalizer switch which allows you to compensate for variable tape sensitivities (in approximately 1.5dB increments up to  $\pm 3\text{dB}$ ); three-positioned Bias/Equalizer switches for three popular types of tapes on the market; a JVC SA Head; Super ANRS in adjustment-free IC; Full Automatic Stop that works in any mode; a JVC Gear/Oil-Damped Cassette Lid; Auto Input Selector for a better signal-to-noise ratio; and an Output Volume Control.



A pair of rack-mounting handles, model BH-W150E, are available at option.



# STEREO CASSETTE DECK

SuperANRS   MPI RE  

## KD-55



### KD-55

- 3-Position Bias/Equalizer Switches
- Easy "One-Touch" Recording Level Setting
- Automatic Input Selector
- Output Volume Control
- Gear/Oil-Damped Cassette Lid

This model is the best buy in JVC's line of high-performing hi-fi cassette decks. Its basic parameters are impressive: frequency response from 30 to 16,000Hz ( $\pm 3$ dB) with Chrome, wow/flutter of less than 0.06% (WRMS) and a signal-to-noise ratio of better than 56dB (ANRS off). If you're shopping for a medium-priced, high-performance deck, the KD-55 is a likely candidate for your stereo system.

#### Accurate Tape Transport

Like more expensive JVC cassette decks, the KD-55 employs a precision frequency generator (FG) servomotor to drive its capstan and reels in the advanced JVC drive configuration. The FG motor is renowned for its rotational accuracy independent of temperature changes, and simplified and advanced system has dramatically improved the stability and reliability of JVC cassette decks. Other KD-55 features to reduce

wow and flutter include a large 80mm-in-diameter dynamically balanced flywheel and a capstan shaft precision ground to a roundness of  $0.1\mu$ .

#### Flattest Response from Any Tape

To solve the problem caused by improper bias and equalization, JVC has equipped the KD-55 with two 3-positioned tape switches — one for bias setting and the other for equalization. By properly adjusting these switches, you can get a natural and flat response from any type of tape, whether you prefer ferric, chrome or ferrichrome types. Another JVC feature included in the medium-priced KD-55 is a Recording Equalizer Switch which allows you to fine-adjust the high frequency response of your deck to compensate for variable tape sensitivities.



#### Easy "One-Touch" Recording Level Setting

You can set recording levels simply by pushing the Record button. On decks without this facility, you would have to push the Pause button and then the Record and Play buttons together.

#### Features for Wider Dynamic Range

Super ANRS (Automatic Noise Reduction System) is a JVC exclusive that makes tape hiss virtually inaudible. And in addition to eliminating high-frequency noises during "silent" periods, the Super ANRS expands your deck's high-frequency dynamic range; highhats and tambourines, for example, won't sound cramped or distorted. Also, because the Super ANRS circuit is contained in an IC (Integrated Circuit), its long-term reliability is assured. Indeed, with the JVC combination of Super ANRS, a 5-LED Peak Indicator and large VU meters, you can produce undistorted, professional quality recordings instantly.

#### Unparalleled Ease of Operation

Three features dramatically enhance the ease of operation of the KD-55. One is the JVC-exclusive Gear/Oil-Damped Cassette Lid; it assures smooth, noise-



# STEREO CASSETTE DECK



## KD-25



less lid movement. The second is the unique Automatic Input Selector. With it selection priority is given first to



Mic, then DIN and then Line inputs; you enjoy recording of a high signal-to-noise ratio. Finally, the Output Volume Control lets you adjust the deck's output level with that of a tuner, etc.



A wood case, model WB-50, is available at option.

## KD-25

- 3-Position Bias/Equalizer Switches
- Low Wow & Flutter of 0.06% WRMS
- Automatic Input Selector
- Gear/Oil-Damped Cassette Lid
- Tape Illumination

The KD-25 is a near-duplicate of the KD-55, but is priced substantially less. But unlike other decks in the same price range, the KD-25 features low wow and flutter of 0.06%. This JVC economy-priced deck with Dolby system is well worth the investment of a listen at your nearest dealer's showroom.

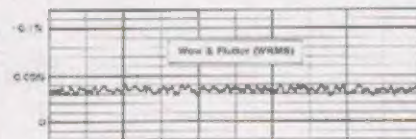
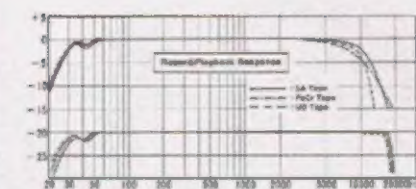
### Easy to Use Facilities

Operate buttons of the KD-25 are serrated and flat for easy, sure grip. Plus: The JVC 5-LED Peak Indicator warns you of imminent saturation distortion; and VU meters are extra large high visibility.

### Accurate Tape Transport

Tapes are unspooled by a precision-finished capstan (ground to a roundness of  $0.1\mu$ ), which is coupled to a large, dynamically balanced, 80mm flywheel, driven by a precision ground belt. It contributes to the low wow/flutter and

high signal-to-noise ratio of the KD-25.



A pair of rack-mounting handles, model BH-140E, are available at option.



# STEREO CASSETTE DECK



## KD-10



- 3-Position Bias/Equalizer Switches
- Low Wow & Flutter of 0.06% WRMS
- Automatic Input Selector
- Gear/Oil-Damped Cassette Lid
- Tape Amount Scale

The KD-10 is priced even lower than other JVC decks, but still includes the following features: 5-LED Peak Indicator, a Timer Standby Facility, Automatic Input Selector, JVC's electronic governor motor and more. In line with other, more expensive decks, performance parameters — such as a high signal to noise ratio (56dB from peak level, weighted) — guarantee long years of musical enjoyment. The KD-10 is a high value, high performance deck at a budget cost.

### New Circuitry

JVC's KD-10 includes an ICized Dolby circuit to reduce annoying tape hiss. This IC form circuit is direct coupled, a highly precise configuration which makes for excellent transient characteristics. Likewise, the KD-10's microphone amp is of an advanced 2-stage direct-coupled design in low-noise IC form. And to improve its signal to noise ratio and dynamic range, the amp is separate from the

line input. The result: high record amp linearity and only negligible distortion of even high-frequency signals.

### Designed for Wide Dynamic Range Recording

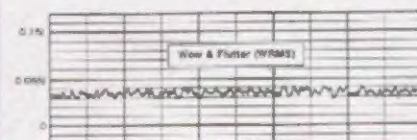
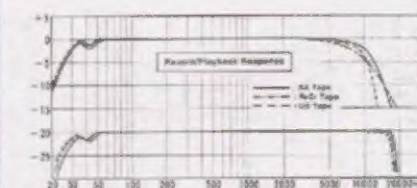
Similar to more expensive JVC decks, the KD-10 has an Automatic Mic/Line Input to help lessen distortion and to expand dynamic range. Three-positioned Bias and Equalization switches allow the KD-10 to accept any type of tape on the market. And with the added assistance of JVC's 5-LED Peak Indicator and new and large VU meters (which even compensate for temperature changes) you can create true-to-life recordings with a wide dynamic range.

### Convenience Features

A reed-type fully-automatic stop mechanism protects tapes and pinch roller from disfiguration. It also prevents the deterioration of wow and flutter with the passage of time. And speaking of time, the KD-10 includes a Timer Standby mechanism which lets you record unattended or awake to music. You can also make direct mode changes without going through STOP. The JVC Gear/Oil-Damped Cassette Lid and more.

### Accurate Tape Transport

Tapes are unspooled by a precision-finished capstan (ground to a roundness of  $0.1\mu$ ), which is coupled to a large, dynamically balanced, 80mm flywheel, driven by a precision ground belt. It contributes to the low wow/flutter.





# STEREO CASSETTE DECK

SuperANRS   MPI  

## KD-S201



- Sophisticated Design
- 3-Position Bias/Equalizer Switches
- Separate MIC (DIN)/LINE Circuits
- Output Volume Control
- Gear/Oil-Damped Cassette Lid

JVC's KD-S201 was specifically designed to complement the newest JVC knobless receiver line. Therefore, you can place it beside your receiver and appreciate the visual as well as audio appeal of your JVC hi-fi system.

As in all JVC quality decks, the KD-S201 deck's primary function is to assure clean recording, regardless of your experience as home recordist. Its wow and flutter is a low 0.06% (WRMS) and its signal to noise ratio is better than 56dB at 1kHz with ANRS-off — top specs in anyone's book.

### Low-Noise Circuitry

The microphone input amp of the JVC KD-S201 has its own circuit, therefore line inputs are sent directly to the recording amp without having to go through the mic circuit. Consequently, signal to noise ratio is improved and distortion is reduced drastically. This separate-circuit mic input design is really appreciated when you use the built-in Super ANRS (Automatic Noise

Reduction System) during recording.

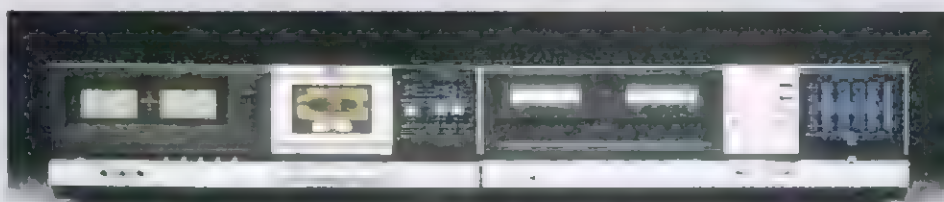
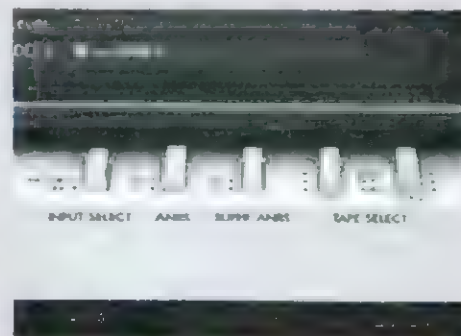
### Use Any Type of Tape

Because the KD-S201 has an equalizer time constant of  $3180\mu\text{s}/70\mu\text{s}$  switchable to  $3180\mu\text{s}/120\mu\text{s}$ , you can use any kind of tape on the market — be it ferric chrome or ferrichrome. And from each tape you enjoy maximum effectiveness and very musical recording.

### FG Servo Motor and More for Stable Transport

Tapes used in the KD-S201 are handled gently — thanks to the accuracy of its advanced drive mechanism powered by JVC's precise FG servomotor. Further tape protection is provided by the built-in Full Automatic Stop mechanism which disengages tape transport when a tape has reached its end in any mode. An opto-electronic system which uses

a light-sensitive cell also contributes to this fine control of tape movement. Gone are the days of jam-prone mechanical decks, stretched tapes and over-heated drive motors. Other features include the separate MIC (DIN)/LINE circuits, Output Volume Control, Gear Oil-Damped Cassette Lid and Timer Standby Mechanism.



KD-S201 with JVC Integrated DC Receiver JR-S301



# STEREO CASSETTE DECK

Top-Loading/Operation

ANRS SA 2GAP MPI

## KD-1770 MARK II



- Two Sets of 5-LED Peak Indicators — One for Each Channel
- Low Wow/Flutter & Flat Response
- MIC (DIN)/LINE Mixing
- 6-Pushbutton Bias/Equalizer Selection
- Memory Stop

For people who prefer to place their decks atop a shelf or table, JVC has designed the top-loading KD-1770. As with all JVC state-of-the-art audio components, the KD-1770 Mark II offers a low wow and flutter figure of only 0.05% (WRMS). This deck's motor and tape transport mechanism also are of a time-tested horizontal design proven to assure stable recording performance.

### Finest Mechanism

The KD-1770 Mark II's exceptionally low 0.05% wow and flutter is due to the use of JVC's frequency generator (FG) servomotor. This frequency-controlled drive unit is DC-operated for less error and is known to rotate more smoothly, provide higher torque and allow less speed deviation than AC-operated units which often are adversely affected by line voltage fluctuations. Another JVC-exclusive employed in the KD-1770 Mark II is an Independent Drive mechanism

which allows the capstan to rotate independently of the deck's reels. The result is accurate tape speed and elimination of reel-caused "tape drag."

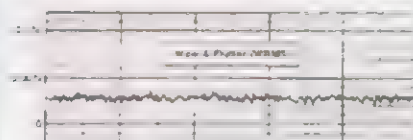
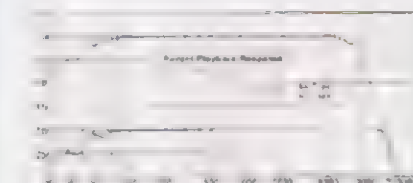
### Versatile Recording Aids

The KD-1770 Mark II has two JVC 5-LED Peak Indicators (10 LEDs in total) to allow monitoring of all signals — left and right channels — at a glance. Also included are two pairs of input level controls — one for Mic/DIN and one for Line. Plus two pairs of circuits — one pair for the left channel and one for the right channel. Thus you can mix mic signals with line inputs from a turntable, tuner or second tape deck. Or you can dub voice or guitar accompaniment into an FM program. Separate inputs for Mic/DIN and Line also mean low distortion and high signal-to-noise ratio. Needless to say, the above capabilities make the KD-1770 Mark II an extremely useful machine.




### Convenience Features

Recording and playback are a pleasure if you use a KD-1770 Mark II deck, but its technical versatility doesn't mean it's difficult to operate. Indeed, it boasts many easy-to-operate features, including a Memory Stop mechanism, an Air-Damped Cassette Lid, a photo-electric Full Automatic Stop Mechanism to prevent tape stretching and motor wear; an illuminated cassette compartment which allows easy checking of tapes; a removable cassette lid to make head-cleaning simpler; mirrored VU meters for precise record level readings.





# PORTABLE STEREO CASSETTE DECKS

Super ANRS  

Super ANRS   

## KD-1636 MARK II / KD-2



### KD-1636 MARK II

- Tri-Color Peak Indicator
- Headphone Volume Control
- Built-in Monitor Speaker with Volume Control
- Master Record Volume Control
- Low Power Consumption & Triple Power Sources

JVC has been a major proponent of "tape-it-live" recording concept from the very beginning. Now, the KD-1636 Mark II — a compact, lightweight and fully portable deck which runs 12 hours on only six ordinary "D"-size batteries — takes this concept even further. This easy to use and fumble free deck offers a recordist not only mobility but musical recording accuracy which includes a very low wow and flutter capability of 0.08% (WRMS).

#### Power Versatility

The KD-1636 Mark II operates on three power sources — household AC, external DC 8—16V (such as that in automobiles, etc.) and six "D"-size batteries. When super long-life batteries are used you can record and play back for as long as 12 hours continuously. The DC-DC converter used means high linearity of

the recording amplifier in the face of drops in voltage.

#### Tri-Color Peak Indicator

Just one three-color LED shows the peak level of signals entering the recording amplifier instant to instant. It changes its color from white to green to red as the level increases — from "below +3dB" through "+3dB to +6dB" to "over +6dB." As with JVC's other peak indicator systems, it helps make low-distortion, clean recordings.

#### More Features for Live Recording Sessions

The Master Record Volume Control makes fade-in and fade-out easy; Input Selector with positions for MIC/DIN, -20dB MIC ATT (attenuator) and LINE; built-in monitor speaker with its own volume control; headphone amp with its own volume control; check light and battery check; Super ANRS; and SA Head.



### KD-2

- JVC's Low Power Consumption Core-less DC Motor
- 3-Position Input Select Switch
- Headphone Volume Control
- Master Record Volume Control
- Lightweight (8.8 lbs./4.0kg)

The KD-2 is one of the lightest and most portable cassette tape decks on the market. It weighs only 8.8 lbs. or 4.0 kg. with batteries, so you aren't flattened with fatigue if you have to carry it on your shoulder for extended hours in the field. Its basic features are nearly identical to those on the KD-1636 Mark II, but here's a brief rundown.

The KD-2's "core-less" DC motor features reduced power consumption, lighter weight and stable performance against voltage drops. And it operates on only four "D"-size batteries, external 6VDC or household AC power sources. There are also a Master Record Volume Control for fade-in/out and a 3-Position Input Switch (Line, Mic 0dB, -20dB). VU meters are extra large, well damped and linear responsive over a wide range, and a headphone amp is built in for on-the-spot monitoring.



# JVC TAPE-IT-LIVE ACCESSORIES

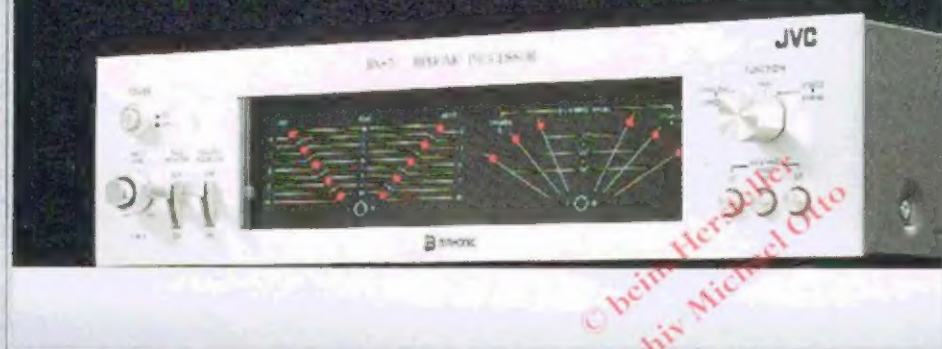
Biphonic Processor

BIPHONIC

Binaural Headphone/Microphone



## BN-5



### BN-5

JVC "Biphonic" is a term coined to reflect two words: "binaural" (two ears) and "stereophonic"; the BN-5 processes binaural sources for amazing binaural effects through speakers.

In a binaural recording, two closely-spaced microphones embedded in a dummy head — which is actually a human head-shaped stand — or its variants like the JVC HM-200E Headphone-Microphone Combination, are used to pick up sounds simulating the way our ears perceive sound. When binaural sources are played back, they offer realistic, even breath-taking three-dimensional reproduction. You'll want to hear it to believe it! The BN-5 lets you enjoy binaural effects through speakers, and more.

#### JVC's Biphonic Processor

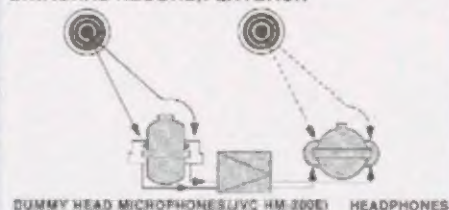
Until now binaural records could be enjoyed to their full only when they were reproduced through headphones. The BN-5 changes that. Doing away with headphones, it helps eliminate listener fatigue that once used to compromise all the binaural advantages. Now you hear clearly distinct sound images around you — 360 degrees in every di-

rection — from your speakers. And these sounds are amazingly realistic.

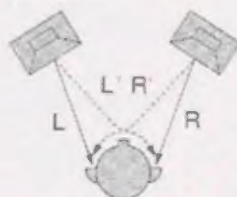
#### Stereo Expander Facility

The BN-5 also possesses the capability to expand the width perspective in your listening room. Signals are arranged by built-in equalizers and delay circuits so that sounds may come from *outside* the speakers. You can experience this new pleasure from any ordinary stereo source you have — tape, record or FM broadcast.

#### BINAURAL RECORD/PLAYBACK



#### BIPHONIC PLAYBACK



## HM-200E



### HM-200E

This is the world's first binaural headphone/microphone combination — a JVC "tape-it-live" accessory that expands your world of live recording to a level you've never dreamed was possible. What's truly new about the HM-200E is its combination of binaural headphones and microphones, an audio duality which permits you to monitor while you are recording binaurally. Unlike conventional "dummy head" microphones, HM-200E allows you to make recordings as you like them, inconspicuously and unencumbered. Here are some highlights of this unique recording accessory:

- A pair of lightweight, omnidirectional electret condenser mics pick sound up clearly. They are decoupled to avoid howling.
- Air-tight dynamic phones are ideal for on-the-spot monitoring. Volume Control is provided.
- A head-shaped mic stand — with five holes at its bottom for five standard mic mounts — is provided for "dummy head" recording.
- Wind screens, left/right mic plugs, and more are included.



Expand your tape recording pleasure with any of the following JVC "Tape-It-Live" accessories:



#### BN-5: SPECIFICATIONS

Type: Biphonic Processor  
 Input Terminals: LINE IN/TAPE PLAY  
 80mV (−20dB)  
 Input Impedance: 100k ohms  
 Output Terminals: LINE OUT  
 Output Level: 300mV (−8dB)  
 Output Impedance: 3.5k ohms TAPE REC  
 Power Consumption: 7W  
 Power Requirement: 120V, 60Hz  
 Dimensions(W × H × D): 390 × 98 × 242 (mm)  
 15-3/8 × 3-7/8 × 9-1/2 (inches)  
 Weight: 3.4kg (7.5lbs.)

#### HM-200E: SPECIFICATIONS

##### MICROPHONES

Type: Electret Condenser  
 Output Impedance: 600 ohms  
 Frequency Response: 40–18,000Hz  
 Low-Cut Response: App. −6dB at 100Hz  
 Power Source: 2 Penlight Batteries (1.5V × 2)

##### HEADPHONES

Type: Dynamic, Closed  
 Impedance: 8 ohms  
**GENERAL**  
 Weight: 600g (1lb 5oz) w/cord  
 Cord Length: 2m (6.6 feet)  
 Mic Plug: 6.3mm phone plug × 2  
 Headphone Plug: 6.3mm stereo plug  
 Mic Stand Screw Holes: 5/16", 3/8", 5/8", PF1/2, 1/4" for cameras

#### M-201 ①

Electret Condenser Stereo Microphone — Frequency Response: 40 – 18,000Hz (music) Sensitivity: −71dB Signal to Noise Ratio: better than 47dB (at 1kHz) Output Impedance: 600 ohms

#### M-510 ②

Super-Directional/Unidirectional Electret Condenser Microphone — Frequency Response: 40 – 20,000Hz (music) Sensitivity: −68dB (super-directional) −71dB (unidirectional) Signal to Noise Ratio: better than 50dB (at 1kHz) Output Impedance: 600 ohms

#### MI-E60 ③

6-Channel Microphone Mixer with Reverberator — Frequency Response: 30–25,000Hz(−3dB) Reverberation Time: about 3 seconds (at 200 – 2,000Hz) Gain Loss in Passive Mode: 13dB (minimum)

#### CB-2E ④

Carrying Case for KD-2

#### CB-4E ⑤

Carrying Case for KD-1636 Mark II

#### KL-4E ⑥

Mounting Rack for Home Use (KD-1636 Mark II)

Also available from JVC is a brand-new recording equipment package called the JVC PK-1 LIVE RECORDING ACCESSORY KIT. It contains:

#### TL-E71 ⑦

Sound Focusing Reflector — Dimensions (W × H): 700 × 300 (mm) 27-9/16 × 11-13/16 (inches) Directivity: ±10° (at 5kHz, horizontal) Boost: 15dB (at 5kHz) Maximum Elevation Angle: 80°

#### TL-E41 ⑧

Stereo Cord & Reel (65 ft.) — Diameter: 160 (mm) 6-5/16 (inches) Weight: 1.9 kg (4.2 lbs.)

#### TL-E36 ⑨

Stereo Microphone Arm — Dimensions: 50 × 320 (mm) 1-15/16 × 12-5/8 (inches) 180 grams (6.3 oz.)

#### TL-E35 ⑩

Microphone Suspension System — Dimensions: 105 × 143 × 130 (mm) 4-1/16 × 5-5/8 × 5-1/8 (inches) Weight: 160 grams (5.6 oz.)

#### TL-E33 ⑪

Clip-Type Microphone Holder — Dimensions 35 × 195 (mm) 1-3/8 × 7-11/16 (inches) Weight: 200 grams (7.0 oz.)

#### TL-E32 ⑫

2-Way Microphone Stand — Dimensions: 68 × 179 (mm) 2-11/16 × 7-1/2 (inches) Weight: 340 grams (0.7 lbs.)

#### TL-E31 ⑬

Multiple-Way Microphone Boom Stand — Dimensions: 2670 × 950 (mm) 105-1/8 × 37-7/16 (inches) Weight: 3.3kg (7.3 lbs.)



# JVC STEREO CASSETTE DECKS: SPECIFICATIONS

	KD-85	KD-85	KD-85	KD-25	KD-40
Frequency Response:	30 — 16,000Hz ±3dB (SA/Chrome)* 30 — 16,000Hz ±3dB (Normal)**	30 — 16,000Hz ±3dB (SA/Chrome)* 30 — 15,000Hz ±3dB (Normal)**	30 — 16,000Hz ±3dB (SA/Chrome)* 30 — 15,000Hz ±3dB (Normal)**	40 — 15,000Hz ±3dB (SA/Chrome)* 40 — 14,000Hz ±3dB (Normal)**	40 — 15,000Hz ±3dB (SA/Chrome)* 40 — 14,000Hz ±3dB (Normal)**
Signal to Noise Ratio:	56dB (from Peak Level, Weighted) without ANRS. The S/N is improved by 5dB at 1kHz and 10dB above 5kHz with ANRS on.	56dB (from Peak Level, Weighted) without ANRS. The S/N is improved by 5dB at 1kHz and 10dB above 5kHz with ANRS on.	56dB (from Peak Level, Weighted) without ANRS. The S/N is improved by 5dB at 1kHz and 10dB above 5kHz with ANRS on.	56dB (from Peak Level, Weighted) without DOLBY. The S/N is improved by 5dB at 1kHz and 10dB above 5kHz with DOLBY on.	56dB (from Peak Level, Weighted) without DOLBY. The S/N is improved by 5dB at 1kHz and 10dB above 5kHz with DOLBY on.
Wow and Flutter:	0.05% (W/RMS), 0.16% (DIN45500)	0.06% (W/RMS), 0.2% (DIN45500)	0.06% (W/RMS), 0.2% (DIN45500)	0.06% (W/RMS), 0.2% (DIN45500)	0.06% (W/RMS), 0.2% (DIN45500)
Crosstalk:	65dB at 1kHz	65dB at 1kHz	65dB at 1kHz	65dB at 1kHz	65dB at 1kHz
Channel Separation:	35dB at 1kHz	35dB at 1kHz	35dB at 1kHz	35dB at 1kHz	35dB at 1kHz
Harmonic Distortion (k=20V, 1kHz):	0.4%	0.5%	0.5%	0.5%	0.5%
Heads:	SA (SEN-ALLOY) Head for Record/Playback Two-Gap Ferrite Head for Erase	SA (SEN-ALLOY) Head for Record/Playback Two-Gap Ferrite Head for Erase	SA (SEN-ALLOY) Head for Record/Playback Two-Gap Ferrite Head for Erase	SA (SEN-ALLOY) Head for Record/Playback Two-Gap Ferrite Head for Erase	Cromax Head for Record/Playback Two-Gap Ferrite Head for Erase
Motor(s):	Frequency-Controlled DC Servo Motor	Frequency-Controlled DC Servo Motor	Frequency-Controlled DC Servo Motor	Electronic Governor DC motor	Electronic Governor DC motor
Fast Forward/Rewind Time:	85 seconds (with C-60 Cassette)	80 seconds (with C-60 Cassette)	80 seconds (with C-60 Cassette)	80 seconds (with C-60 Cassette)	80 seconds (with C-60 Cassette)
Bias and Erase System:	AC-95kHz	AC-95kHz	AC-95kHz	AC-95kHz	AC-95kHz
Input Sensitivity/Impedance					
Mic x 2:	0.2mV, 600 — 10K ohms	0.2mV, 600 — 10K ohms	0.2mV, 600 — 10K ohms	0.2mV, 600 — 10K ohms	0.2mV, 600 — 10K ohms
Line In x 2:	80mV, 100 k ohms	80mV, 100 k ohms	80mV, 100 k ohms	80mV, 100 k ohms	80mV, 100 k ohms
DIN:	0.17mV/k ohms, 10 k ohms	0.1mV/k ohms, 10 k ohms	0.1mV/k ohms, 10 k ohms	0.1mV/k ohms, 10 k ohms	0.1mV/k ohms, 10 k ohms
Output Level/Impedance					
Line Out x 2:	0 — 500 mV, 3 k ohms	0 — 300 mV, 3 k ohms	0 — 500 mV, 3 k ohms	410 mV, 3 k ohms	410 mV, 3 k ohms
DIN:	0 — 500 mV, 3 k ohms	0 — 300 mV, 3 k ohms	0 — 500 mV, 3 k ohms	410 mV, 3 k ohms	410 mV, 3 k ohms
Headphone:	0 — 0.6mV, 8 — 1 k ohms	0 — 0.6mV, 8 — 1 k ohms	0 — 0.6mV, 8 — 1 k ohms	0.3mV, 8 — 1 k ohms	0.3mV, 8 — 1 k ohms
Power Consumption:	30 watts	11 watts	11 watts	11 watts	11 watts
Power Source:	120 V, 60Hz	120 V, 60Hz	120 V, 60Hz	120 V, 60Hz	120 V, 60Hz
Dimensions (W x H x D):	450 x 158 x 327 (mm) (17.34 x 6.14 x 12.78) (inches)	450 x 158 x 327 (mm) (17.34 x 6.14 x 12.78) (inches)	420 x 149 x 264 (mm) (16.9/16 x 5.78 x 10.7/16) (inches)	420 x 149 x 264 (mm) (16.9/16 x 5.78 x 10.7/16) (inches)	420 x 149 x 264 (mm) (16.9/16 x 5.78 x 10.7/16) (inches)
Weight:	8.4 kg (21.8 lbs.)	6.0 kg (13.2 lbs.)	8.6 kg (22.3 lbs.)	5.0 kg (11.0 lbs.)	4.5 kg (9.9 lbs.)

	KD-S201	KD-1770 Mark II	KD-1638 Mark II	KD-2
Frequency Response:	30 — 16,000Hz ±3dB (SA/Chrome)* 30 — 15,000Hz ±3dB (Normal)**	30 — 16,000Hz ±3dB (Chrome)* 30 — 16,000Hz ±3dB (Normal)**	30 — 16,000Hz ±3dB (SA/Chrome)* 30 — 15,000Hz ±3dB (Normal)**	30 — 16,000Hz ±3dB (SA/Chrome)* 30 — 15,000Hz ±3dB (Normal)**
Signal to Noise Ratio:	56dB (from Peak Level, Weighted) without ANRS. The S/N is improved by 5dB at 1kHz and 10dB above 5kHz with ANRS on.	56dB (from Peak Level, Weighted) without ANRS. The S/N is improved by 5dB at 1kHz and 10dB above 5kHz with ANRS on.	57dB (from Peak Level, Weighted) without ANRS. The S/N is improved by 5dB at 1kHz and 10dB above 5kHz with ANRS on.	57dB (from Peak Level, Weighted) without ANRS. The S/N is improved by 5dB at 1kHz and 10dB above 5kHz with ANRS on.
Wow and Flutter:	0.06% (W/RMS), 0.2% (DIN45500)	0.05% (W/RMS), 0.18% (DIN45500)	0.06% (W/RMS), 0.2% (DIN45500)	0.06% (W/RMS), 0.2% (DIN45500)
Crosstalk:	65dB at 1kHz	65dB at 1kHz	65dB at 1kHz	65dB at 1kHz
Channel Separation:	35dB at 1kHz	35dB at 1kHz	35dB at 1kHz	35dB at 1kHz
Harmonic Distortion (k=20V, 1kHz):	0.5%	0.5%	0.5%	0.5%
Heads:	SA (SEN-ALLOY) Head for Record/Playback Two-Gap Ferrite Head for Erase	SA (SEN-ALLOY) Head for Record/Playback Two-Gap Ferrite Head for Erase	SA (SEN-ALLOY) Head for Record/Playback Two-Gap Ferrite Head for Erase	SA (SEN-ALLOY) Head for Record/Playback Two-Gap Ferrite Head for Erase
Motor(s):	Frequency-Controlled DC Servo Motor	Frequency-Controlled DC Servo Motor	Electronic Governor Coreless DC Motor	Electronic Governor Coreless DC Motor
Fast Forward/Rewind Time:	80 seconds (with C-60 Cassette)	75 seconds (with C-60 Cassette)	90 seconds (with C-60 Cassette)	90 seconds (with C-60 Cassette)
Bias and Erase System:	AC-95kHz	AC-95kHz	AC-95kHz	AC-95kHz
Input Sensitivity/Impedance				
Mic x 2:	0.2mV, 600 — 10K ohms	0.2mV, 600 — 10K ohms	0.14mV, 200 — 10K ohms	0.2mV, 600 — 2K ohms
Line In x 2:	80mV, 100 k ohms	80mV, 100 k ohms	80mV, 100 k ohms	80mV, 100 k ohms
DIN:	0.1mV/k ohms, 10 k ohms	0.17mV/k ohms, 10 k ohms	0.12mV/k ohms, 10 k ohms	0.2mV/k ohms, 10 k ohms
Output Level/Impedance				
Line Out x 2:	0 — 500 mV, 3 k ohms	0 — 500 mV, 3 k ohms	500 mV, 2.5 k ohms	500 mV, 2.5 k ohms
DIN:	0 — 500 mV, 3 k ohms	0 — 500 mV, 3 k ohms	500 mV, 2.5 k ohms	500 mV, 2.5 k ohms
Headphone:	0 — 0.6mV, 8 — 1 k ohms	0 — 0.3mV, 8 — 1 k ohms	0 — 0.75mV, 8 ohms	0 — 0.75mV, 8 ohms
Power Consumption:	11 watts	30 watts	9 watts	5.5 watts
Power Source:	120 V, 60Hz	120 V, 60Hz	120 V, 60Hz DC9V (D: 6 pcs.) Ext. DC6 — 16V	120 V, 60Hz DC9V (D: 4 pcs.) Ext. DC5V
Dimensions (W x H x D):	500 x 167 x 359 (mm) (19.11/19 x 6.9/19 x 14.1/19) (inches)	426 x 126 x 277 (mm) (16.34 x 4.96 x 10.7/16) (inches)	372 x 101 x 246 (mm) (14.58 x 4 x 9.11/16) (inches)	278 x 95 x 289 (mm) (10.75 x 3.34 x 11.3/16) (inches)
Weight:	9.3 kg (20.5 lbs.)	3.5 kg (7.7 lbs.)	4.7 kg (10.3 lbs.) w/ batteries 5.3 kg (11.7 lbs.) w/ batteries	2.0 kg (4.4 lbs.) w/ batteries 4.0 kg (8.8 lbs.) w/ batteries

\*Measured with TDK SA tape.

\*\*Measured with MAXELL UD tape.

Design and specifications subject to change without notice.



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